

**REMARKS**

This application has been carefully reviewed in light of the Office Action of June 19, 2006, wherein:

- A. Claims 1-6, 8, 12-17, and 19 were rejected under 35 U.S.C. §102(e) as being anticipated by US Patent No. 6,549,961 to Kloth; and
- B. Claims 7 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent No. 6,549,961 to Kloth; and
- C. Claims 9-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent No. 5,528,761 to Ooba et al..

**Claim Rejections – 35 U.S.C. §102**

- A. Claims 1-6, 8, 12-17, and 19 were rejected under 35 U.S.C. §102(e) as being anticipated by US Patent No. 6,549,961 to Kloth, herein referred to as the “Kloth patent.”

*Claim 1*

In rejecting Claim 1, the Examiner stated that the Kloth patent “discloses a network switch including a plurality of processing engines (fig. 1, multiprocessor system 20 comprises a bridge 24 and a crossbar 80) comprising receiving a request from a processor 22 at block 40); assigning a semaphore to the connection (granting a semaphore 32 corresponding to an access request at block 46); storing the semaphore at the processing engines (storing semaphore in memory of bridge 24, see col. 3, lines 30-32); at one of the processing engines, receiving an internal message including a semaphore value (within a data address received, a portion of the address correspondences to a requested resource 28 is founded, see col. 3, lines 55-60); comparing the stored semaphore to the semaphore value (bridge 24 examines a portion of the data access address to determine which resource 28 the access request is intended, then bridge 24 examines semaphore 32 corresponding to the requested resource 28 to determine if the requested resource 28 is available in block 44, see col. 3, lines 59-65); and at one of the processing engines, processing the internal message based on the comparison of the stored semaphore and the semaphore value (the access is granted to processor 22 if the requested resource 28 is available, otherwise, request from the processor 22 is denied with a halt signal 34, see col. 3, line 64 – col. 4, line 3.)”

The Applicants respectfully disagree that the teachings of the Kloth patent anticipate Claim 1. In order to establish a prima facie case of anticipation, the Examiner must set forth an argument that provides (1) a single reference (2) that teaches or enables (3) each of the claimed elements (as arranged in the claim) (4) either expressly or inherently and (5) as interpreted by one of ordinary skill in the art. All of these factors must be present, or a case of anticipation is not met. As stated in the MPEP 2131, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). The Applicants submit that the Kloth patent does not teach, disclose, or suggest each and every element of Claim 1.

Claim 1 claims, in part, “receiving a request for a connection at the network switch; assigning a semaphore to the connection; ... [and] at one of the processing engines receiving an internal message including a semaphore value.” The Applicants submit that the Kloth patent does not teach, disclose, or suggest “receiving a request for a connection at the network switch; assigning a semaphore to the connection; ... [and] at one of the processing engines receiving an internal message including a semaphore value,” as is claimed in Claim 1.

*The Kloth patent does not teach, disclose, or suggest “receiving a request for a connection at the network switch; [and] at one of the processing engines receiving an internal message including a semaphore value.”*

In response to the Applicants’ arguments filed on April 4, 2006, the Examiner stated that the Kloth patent, in col. 3, lines 50-65, anticipates “receiving a request for a connection at the network switch,” as is claimed in Claim 1. The Examiner stated that “‘access’ to the requested resource 28 is a ‘connection.’” The Examiner uses the same portion of the Kloth patent, col. 3, lines 55-60, to anticipate “at one of the processing engines, receiving an internal message including a semaphore value,” as is also claimed in Claim 1. The Applicants submit Claim 1 claims two distinct parts of a method, the first part being “receiving a request for a connection at the network switch” and the second part being “at one of the processing engines, receiving an internal message

including a semaphore value.” The Applicants submit that the single message from the processor 22 to the bridge 24 disclosed in the Kloth patent, col. 3, lines 50-65, cannot be both “a request for a connection at the network switch,” and “an internal message including a semaphore value,” as is claimed in Claim 1. Therefore, the Applicants submit that the Kloth patent does not teach, disclose, or suggest all of the elements of Claim 1.

*The Kloth patent does not teach, disclose, or suggest “assigning a semaphore to the connection.”*

The Examiner stated that “assigning a semaphore to the connection” is taught in the Kloth patent by “granting a semaphore 32 corresponding to an access request at block 46.” In response to the Applicants’ arguments filed on April 4, 2006, the Examiner clarified this position by stating that the Kloth patent in col. 3, lines 50-67, teaches after the resource is granted to the processor 22, the semaphore 32 corresponding to the granted resource is updated. The Applicants continue to respectfully disagree with the Examiner.

The Kloth patent teaches that “[e]ach shared resource is assigned a semaphore,” see col. 1, lines 23-24. The Applicants submit that a shared resource, as defined by the Kloth patent in col. 1, lines 13-14 as memory or I/O devices is not “a connection,” as is claimed in Claim 1. Therefore, the Kloth patent does not teach, disclose, or suggest “assigning a semaphore to the connection,” as the Kloth patent explicitly teaches “assign[ing] each shared resource a semaphore.”

Further, the Kloth patent teaches “[t]he bridge has a semaphore corresponding to each protected resource indicating if the corresponding resource is available,” see col. 2, lines 12-14. “The state of the semaphore corresponding to the protected resource is examined to indicate the availability of the protected resource,” see col. 2, lines 38-40. The Applicants submit that updating the semaphore 32 based on an access request to indicate that the protected resource is unavailable does not anticipate “assigning a semaphore to the connection,” as is claimed in Claim 1.

For the reasons given above, the Applicants submit that the Kloth patent does not teach, disclose, or suggest all of the elements of Claim 1. Therefore, Claim 1 is patentable over the cited prior art.

#### *Claims 2-8*

Claims 2-8 are dependent upon Claim 1. For the reasons given above, the Applicants submit that Claim 1 is patentable over the cited prior art. Therefore, the Applicants submit that Claims 2-8 are also patentable over the cited prior art at least through their dependence upon an allowable base claim.

#### *Claim 12*

*The Kloth patent does not teach, disclose, or suggest “a first processing engine for assigning a semaphore to one or more packets associated with a connection”*

Claim 12 claims, in part, “a first processing engine for assigning a semaphore to one or more packets associated with a connection.” The Applicants submit that the Kloth patent does not teach, disclose, or suggest “assigning a semaphore to one or more packets associated with a connection.” The same arguments provided above with respect to Claim 1 apply to Claim 12. The Applicants submit that shared resources, as defined in the Kloth patent, are not packets associated with a connection. Additionally, the Applicants contend that the Kloth patent does not teach, disclose, or suggest “assigning a semaphore to one or more packets,” instead the Kloth patent teaches updating a semaphore in response to an access request.

Further, the Applicants respectfully request that the Examiner indicate what portion of the Kloth patent the Examiner finds “assigning a semaphore to one or more packets associated with a connection,” as is claimed in Claim 12 (emphasis added). In response to the Applicants’ arguments, the Examiner stated the “resource 28 is granted to the processor 22. ... This means that the processor 22 is granted the ownership to have its connection to access data from resource 28.” The Applicants submit that this explanation does not show how the Examiner is interpreting the Kloth patent to teach, disclose, or suggest “assigning a semaphore to one or more packets associated with a connection” (emphasis added). Therefore, the Applicants respectfully request that the Examiner

indicate what portion of the Kloth patent the Examiner finds “assigning a semaphore to one or more packets associated with a connection,” as is claimed in Claim 12(emphasis added).

The Kloth patent does not teach, disclose, or suggest “a first processing engine for assigning a semaphore to one or more packets associated with a connection; [and] a second processing engine, in communication with the first processing engine, having a memory for storing the semaphore ...”

On page 2 of the present office action, the Examiner stated that the semaphores are stored in the memory of bridge 24. Therefore, the Applicants understand that the Examiner is asserting that the second processing engine of the present application is anticipated by the bridge 24 of the Kloth patent. However, the Examiner also indicated that the bridge 24 of the Kloth patent assigns the semaphore to one or more packets associated with the connection. The Applicants submit that the Kloth patent does not teach, disclose, or suggest that the bridge 24 has “a first processing engine for assigning a semaphore to one or more packets associated with a connection; [and] a second processing engine, in communication with the first processing engine, having a memory for storing the semaphore” as is claimed in Claim 12. Further, the Applicants submit that the Kloth patent does not teach, disclose, or suggest “a first processing engine for assigning a semaphore to one or more packets associated with a connection; [and] a second processing engine, in communication with the first processing engine, having a memory for storing the semaphore,” as is claimed in Claim 12.

Therefore, for the reasons submitted above, the Applicants submit that the Kloth patent does not anticipate Claim 12.

#### *Claims 13-19*

Claims 13-19 are dependent upon Claim 12. For the reasons given above, the Applicants submit that Claim 12 is patentable over the cited prior art. Therefore, the Applicants submit that Claims 13-19 are also patentable over the cited prior art at least through their dependence upon an allowable base claim.

**Claim Rejections – 35 U.S.C. §103**

C. Claims 9-11 were rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent No. 5,528,761 to Ooba et al., herein referred to as the “Ooba patent.”

In the final office action, the Examiner did not address the Applicants’ arguments submitted on April 4, 2006. For completeness, the arguments previously presented with respect to Claims 9-11 are repeated. The Applicants respectfully request that the Examiner consider these arguments and respond to them in the Examiner’s next correspondence.

In rejecting Claim 9, the Examiner stated “[e]ven though the message command from Ooba et al. does not include an assigned semaphore, but the message command designates one or more destination processors (col. 6, lines 3-5). Therefore, it would have been obvious [to] equate assigning a semaphore to an internal message with designate one designation processor in the Ooba et al. in order to determine whether the destination processor is ready to receive [a] message.” The Applicants respectfully disagree with the conclusion drawn by the Examiner.

As noted in MPEP 706.02(j) “to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).”

In this case, the Examiner has not indicated where in the prior art the limitation of “at an origination processor, assigning a semaphore to an internal message associated with the packet,” claimed in Claim 9, is taught, disclosed, or suggested. In fact, the Examiner admits that the message command of the Ooba patent does not include an assigned semaphore. The Examiner appears to assert that this limitation is generally available to one of ordinary skill in the art, since the Examiner has offered no other evidence to support where this limitation is taught, disclosed, or suggested. If the

Examiner continues to maintain his rejection of Claim 9 as being obvious over the Ooba patent, the Applicants respectfully request that the Examiner submit an affidavit as required under 37 CFR 1.104(d)(2), see MPEP section 2144.04(c).

Additionally, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The Applicants submit that the Ooba patent specifically teaches away from combining a semaphore with the message command taught by the Ooba patent. Col. 6, lines 56-62 state “[t]he other advantage is that a quasi-software exclusive control, such as a semaphore is not required. If such an exclusive control using a shared variable causes memory access, the memory access in turn causes access to the shared bus and increases traffic on the shared bus. Unnecessary access to the shared bus adversely affects the performance of the system.” (emphasis added). Therefore, the Applicants submit that the Ooba patent teaches away from combining a semaphore with the command message taught in the Ooba patent.

Therefore, for the reasons submitted above, the Applicants submit that the Ooba patent does not anticipate Claim 9.

#### *Claims 10-11*

Claims 10 and 11 are dependent upon Claim 9. For the reasons given above, the Applicants submit that Claim 9 is patentable over the cited prior art. Therefore, the Applicants submit that Claims 10 and 11 are also patentable over the cited prior art at least through their dependence upon an allowable base claim.

#### **Concluding Remarks:**

For all the foregoing reasons, reconsideration of and withdrawal of all outstanding rejections is respectfully requested. The Examiner is earnestly solicited to allow all claims, and pass this application to issuance.


The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 08-3038. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an

extension of time of the number of months necessary to make this response timely filed.  
The petition fee due in connection therewith may be charged to deposit account no.  
**08-3038**, (referencing Docket No. **02453.0005.NPUS00**) for the requisite fee.

To expedite allowance of this case, the Examiner is earnestly invited to call the undersigned at (949) 721-6900.

Respectfully submitted,

Date: August 21, 2006

  
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